CLAIMS

1. A masking unit (REMSK) for use in a data packet switching system of the type having a memoryless cross-bar switch (SM) providing cyclic connections between ingress routers (IR0, IR1, IR2, IR3) and egress routers (ER0, ER1, ER2, ER3), the ingress routers providing incoming packet buffering on a virtual output queue basis and being arranged to generate switch connection requests when a virtual output queue (VOQ) contains a data packet, characterised in that the masking unit (REMSK) is arranged to receive all of the switch connection requests (REQ) and to randomly mask connection requests (REQ).

2. A masking unit (REMSK) as claimed in claim 1, the masking unit including a comparator (C) for each virtual output queue, the masking unit being arranged to receive with each request an associated weight value (Wt), and to feed the weight values to the corresponding comparators (C) together with a stream of randomly generated values, the comparators (C) being arranged to produce respective random bit streams whose proportion of 1's to 0's is determined by the corresponding weight values (Wt), and the masking unit being arranged to use each random bit stream for masking out the requests (REQ) from the corresponding virtual output queue (VOQ).

3. A masking unit (REMSK) as claimed in claim 2 further comprising a two input AND gate (G) for each comparator (C), one input of the AND gate (G) being arranged to receive the corresponding connection requests and the other input of the AND gate (G) being arranged to receive the output of the corresponding comparator (C).

4. A masking unit as claimed in claim 2 including an arrangement for generating an uncorrelated set of randomly generated bit streams, the arrangement comprising a single random bit stream generator clocked at frequency f and fed into the first stage of a shift register (NR) which is n bits wide, where n equals the number of bits of the weighting factor of the requests, and x+1 stages deep, where x equals the number of connections that the memoryless cross-bar switch can make, the shift register (NR) being clocked at a frequency f/n to produce at each of the stages (Ns) bar the first an uncorrelated set of n bit nibble streams for application to the comparators (C) of the masking unit.

5. A masking unit as claimed in claim 4 in which the frequency f/n is equal to the frequency of the cyclic operation of the memoryless cross-bar switch (SM).

6. A masking unit as claimed in claim 4 in which the random bit stream generator is a linear feed back register (LFSR).

7. A method of controlling a data packet switching system of the type having a memoryless cross-bar switch (SM) providing cyclic connections between ingress routers (IR0, IR1, IR2, IR3) and egress routers (ER0, ER1, ER2, ER3) under the control of a switch control arbiter (SCARB), the ingress routers providing incoming packet buffering on a virtual output queue basis and being arranged to generate switch correction requests (REQ) when a virtual output queue (VOQ) contains a data packet, the method being characterised by comprising:

randomly selecting ones of said switch connection requests; and

transmitting all the connection requests (REQ) except said selected requests to the switch control arbiter (SCARB).

8. A method according to claim 7 in which each request (REQ) is associated with a weight value (Wt), the selection of the requests including comparing the associated weight value (Wt) with a first randomly generated value to generate a second random value and selecting the requests based on the second random value.